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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RAO, SHRINIVAS H	
ART UNIT	**PAPER NUMBER**
2814	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/932,644	JACOBSEN, JEFFREY JAY	
	Examiner	Art Unit	
	Steven H. Rao	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-23,27 and 29-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *15-23 and 27,29-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Applicants' amendment filed July 08, 2005 has been entered and forwarded to the examiner on July 18, 2005.

Therefore claims 15 to 23, 27 and 29-31 as recited in the amendment are currently pending in the Application.

Claims 1 to 14, 24-26, and 28 were previously cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action :

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 15 to 21, 23, 27 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duthaler et al. (U.S. Patent No. 6,312, 304, herein after Duthaler) in view of Falls et al. (WO. Patent No. 97/05556, herein after Falls) as previously applied and further in view of Smith . (U.S. Patent No.. 5,545, 291, herein after Smith also cited by applications in their specification).

With respect to claim 15 describes a method of manufacturing a flexible display panel (Duthaler col. 2 lines 26-27) comprising : depositing a plurality of shaped blocks onto a flexible substrate, (Duthahler col. 2 lines 24-27) .

Duthaler does not specific ally describe its flexible strip as having flexible substrate having a plurality of recessed regions configured to receive said plurality of shaped blocks therein .

However Smith , a patent from the same filed of endeavor describes in figures 1-156 etc, and col. 5 line: 14-35 etc. describes having a plurality of recessed regions configured to receive said plurality of shaped blocks therein to provide a method of assembling a microstructure on to a substrate that is compact, low cost, efficient, reliable and requires little maintenance.

Therefore it would have been obvious to one of ordinary skill in the art a the time of the invention to include Smith's a plurality of recessed regions configured to receive said plurality of shaped blocks In Duthaler's method , the motivation to include the above substitution is therein to provide a method of assembling a microstructure on to a substrate that is compact, low cost, efficient, reliable and requires little maintenance.

The remaining limitations of claimls are :

each of said shaped blocks comprising a circuit element for driving a picture element (Duthaler fig. 2 # 24, col. 4 line 2)

Duthaler does not specifically describe the coupling of a receiver to the plurality of shaped blocks on the flexible layer.

However Falls in figure figures 1,6,7 and pages 27 lines 7 to 12 describes the coupling of a receiver to the plurality of shaped blocks on the flexible layer to automate real-time information display, dynamic printed information display an shelf-space management .

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Fall's receiver coupled to the plurality of blocks on the flexible layer to automate real-time information display, dynamic printed information display an shelf-space management. (Falls page 9 lines 18-27).

The remaining elements of claim 15 :

the receiver to cause each of said shaped blocks to drive the picture element (Duth aler col. 4 lines 12-29, fig. 8a to 1 1 # 136,142, col. 7 lines 8 to 37).and coupling a display panel to the flexible substrate.

With respect to claim 16 Duthaler describes the method of claim 15, wherein said flexible display panel conforms to a desired shape of an object when said flexible display panel is attached to said object (Falls page 1 lines 3 to 34).

With respect to claim 17 Duthaler describes the method of claim 15, wherein each of said shaped blocks comprises an active circuit element, which drives a picture element. (Falls figs. 1,6 and 7 , page 10 lines 15-20).

With respect to claim 18 Duthaler describes the method of claim 15, further comprising: coupling a display generation substrate to said flexible substrate (Falls fig. 13 , page 58 lines 6 to 29).

With respect to claim 19 Duthaler describes the method of claim 15, wherein said flexible display panel comprises an active matrix display back plane which comprises at least one electrode for each picture element. (Duthaler figure 8a , col. 7 one lines 8 to 53)

With respect to claim 20 , Duthaler describes The method of claim 15, wherein

said flexible display panel is conformal. (i.e. as defined in the specification page 5 section (0017) they may receive information in order to alter or configure display(Falls page 27, lines 17 to 20).

With respect to claim 21 , Duthaler describes the method of claim 15, wherein the flexible display panel has an organic light emitting diode. Duthaler col.8 lines 44).

With respect to claim 23, Duthaler describes the method of claim 15, wherein the receiver is a RF wireless transponder receiver (Fâlls page 3 lines 17 to19).

With respect to claim 27 Duthaler describes a method of manufacturing a flexible display panel depositing a plurality of blocks onto a web material defined by a length 50 times greater than its width, each of said blocks comprises an electronic device for driving a picture element', and coupling a receiver to the plurality of blocks on the web material. (Duthalier col. 2 lines 27-45, Falls figs. 1,6 and 7,etc.).

With respect to claim 31, Duthaler describes the method of claim 15 wherein each of shaped block comprises single crystal silicon. (well known in the art to form FETS capacitors (which the specification stated the block forms) of single crystal silicon material - see Wolf text book etc.).

B. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duthaler et al. (U.S. Patent No. 6,312, 304, herein after Duthaler), Falls S et al. (WO. Patent No. 97/05556, herein after Falls) and Smith (U.S. Paient No. 5,545,291, herein after Smith) as applied to claims 15-21 , etc. and fudher in view of Bischel et al. (U.S. Patent No. 5,664,032 herein after Bischel).

.With respect to claim 22, Duthaler describes The method of claim 15.

' Duthaler and Fails do not specifically mention the flexible display panel as comprising up converting phosphor.

However Bischel in col. 94 lines 5-10 describes up converting phosphor to radiate desired display color by channeling light through particular wavelength by waveguides and thus eliminate the need for a separate diffusing screen.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Bischel's up conveding phosphor in Duthaler and Falls S's method to radiate desired display color by channeling light through particular wavelength by wave guides and thus eliminate the need for a separate diffusing screen. (Bischel col. 94 lines 8-10).

Response to Arguments

Applicants' arguments are moot Applicant's arguments with respect to claims 15-23, 27-31 have been considered but are not persuasive for the following reasons :

Applicants' arguments are based piecemeal analysis of the applied Duthaler and Falls, Smith (cls. 15-21, 23 27 and 29-31) and further Bischel (cl. 22) references for reasons et out below , it has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combination of references. In re Keller, 208 USPQ 871 (CCPA 1981).

Applicants' contention that motivation to combine the applied Duthaler, Falls and Smith has not been provided is an incomplete analysis of the Outstanding Office Action which in pages 3-4 (motivation to combine Duthaler with Smith) (Therefore it would have been obvious to one of ordinary skill in the art a the time of the invention to include

Smith's a plurality of recessed regions configured to receive said plurality of shaped blocks In Duthaler's method , the motivation to include the above substitution is therein to provide a method of assembling a microstructure on to a substrate that is compact, low cost, efficient, reliable and requires little maintenance and further reinforced by Smith teachings at least in col. 3 reproduced below).

Similarly the motivation to combine Duthaler/ Smith with Fall is stated in page 4 of the Outstanding Office Action namely (Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Fall's receiver coupled to the plurality of blocks on the flexible layer to automate real-time information display, dynamic printed information display an shelf-space management. (Falls page 9 lines 18-27).

Therefore the applied references themselves provide the motivation to combine the references irrespective of what Applicants' allege.

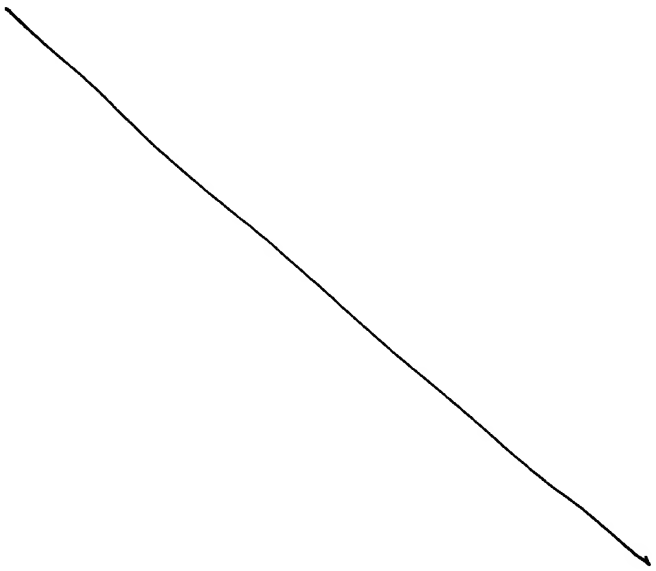
Applicants' first contention that Duthaler in view of Falls and Smith do not suggest/ teach the step of " depositing a plurality of blocks onto a flexible substrate, said flexible substrate having a plurality of recessed regions configured to receive said plurality of shaped blocks therein" is not persuasive because as repeatedly stated in the rejection

"depositing a plurality of blocks on the substrate" is taught at least by the applied Duthaler reference at col. 2 lines 24-27, col. 4 lines 12-29, fig. 8 a to 11 #136,142 and col. 7 lines 8 to 37.

"The flexible substrate having a plurality of recessed regions configured to receive said plurality of shaped blocks therein is " again as repeatedly stated in the rejections is suggested/taught by at least by Smith , (also cited by Applicants' as prior art) a patent from the same filed of endeavor describes in figures 1-156 etc, and col. 5 line: 14-35 etc. describes having a plurality of recessed regions configured to receive said plurality of shaped blocks therein to provide a method of assembling a microstructure on to a substrate that is compact, low cost, efficient, reliable and requires little maintenance.

Therefore it would have been obvious to one of ordinary skill in the art a the time of the invention to include Smith's a plurality of recessed regions configured to receive said plurality of shaped blocks In Duthaler's method , the motivation to include the above substitution is therein to provide a method of assembling a microstructure on to a substrate that is compact, low cost, efficient, reliable and requires little maintenance.

Further motivation for include Smith's a plurality of recessed regions configured to receive said plurality of shaped blocks In Duthaler's method as stated in Smith (col. 3) are :



over

In one specific embodiment, the method provides assembling a microstructure such as a micron sized block onto a substrate. The substrate include& a top surface with at least one recessed region thereon and may be either a silicon wafer, gallium arsenide wafer, glass substrate, ceramic substrate, or others. The substrate may also be a plastic sheet fabricated from a technique such as stamping, injection molding, among others. Assembling steps include providing shaped blocks, and transferring the blocks into a fluid to form a mixture thereof or generally a slurry. Such slurry is then dispensed evenly over the substrate at a rate where at least one of the shaped blocks is disposed into a recessed region. Dispensing occurs at substantially a laminar flow and allows a portion of the shaped blocks to self-align into the recessed region.

In an alternative embodiment, the method provides, for example, shaped blocks having a trapezoidal profile from an improved fabrication process. Fabrication includes providing a second substrate having a top surface, and growing a sacrificial layer overlying the top surface. A step of forming a block layer overlying the top surface is then performed. Masking and etching the block layer up to the sacrificial layer creates trapezoidal shaped blocks thereon. A step of preferential etching the sacrificial layer lifts off each trapezoidal shaped block. Such blocks are then rinsed and transferred into a solution forming the slurry.

The invention further provides a resulting trapezoidal shaped block integral with a substrate. The substrate includes a plurality of recessed regions thereon. Each recessed region includes a shaped profile to accept a trapezoidal shaped block. The resulting structure has such blocks integrated with the substrate via the recessed regions forming assembled devices or integrated circuits.

Therefore the applied reference itself (Smith) provides the motivation to combine the references as done so in the rejections above and further the rejections read on all presently recite limitations in the claims.

Applicants' next contention that Smith does not suggest the blocks should deposited into a flexible substrate is not persusiave because as shown above in col. 3 of Smith the substrate include plastic sheets (flexible substrate) and as shown above Smith further describes blocks should deposited into a flexible substrate .

Applicants' contention that Smith "does not suggest that blocks with driving circuit is/are deposited in a flexible substrate and a receiver coupling to the blocks" is based on

Applicants' impermissible piece meal analysis and incomplete understanding of the rejection.

As repetadly stated in the rejection Duthaler at least in figure 23-24 and col. 4 line 2 teaches " each of said shaped blocks comprise a circuit element for driving a picture eleemnt." Therefore it is not necessary for the secondary reference to repeat the teachings already taught by the primary reference. If the secondary Smith reference were to teach all the presently recited limitations of e.g. claim 15 then the outstanding rejection would be a 102 and not 103.

Similarly Falls at least in figures 1,6,7 and pages 27 lines 7 to 12 describes describes the coupling of a receiver to the plurality of shaped blocks on the flexible layer to automate real-time information display, dynamic printed information display an shelf-space management . Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Fall's receiver coupled to the plurality of blocks on the flexible layer to automate real-time information display, dynamic printed information display an shelf-space management. (Falls page 9 lines 18-27).

Further Duthalier col. 2 lines 27-45, Falls figs. 1,6 and 7,etc. teach all the presently recited limitations of claim 27.

Therefore al the presently recited limitations of claims 15-21, 12(sic. 21) , 27 and 29-31 are finally rejected as being obvious over Duthaler, Smith and Falls.

Claim 22 was alleged to be allowable because for the same reasons set out above , as these reasons set out above were not found to be persuasive above , they

are also not found persuasive here and claim 22 is finally rejected over Duthaler, Smith Falls and Bischel.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is (571) 272-1718. The examiner can normally be reached on 8.00 to 5.00.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Steven H. Rao

September 19, 2005.

LONG PHAM
PRIMARY EXAMINER